(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization

International Bureau



20 JUN 2005

(43) International Publication Date 15 July 2004 (15.07.2004)

PCT

(10) International Publication Number WO 2004/058050 A 2

(51) International Patent Classification⁷:

A61B

(21) International Application Number:

PCT/US2003/040701

(22) International Filing Date:

19 December 2003 (19.12.2003)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

60/434,918 60/463,577

20 December 2002 (20.12.2002) US 17 April 2003 (17.04.2003) US

(71) Applicant (for all designated States except US): AVALON PHARMACEUTICALS [US/US]; 20358 Seneca Meadows Parkway, Germantown, MD 20876 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): AUGUSTUS, Meena [IN/IN]; 3215 Hollyhock Drive, Burtonsville, MD 20866 (US). HORRIGAN, Stephen [US/US]; 1895 Milboro Drive, Potomac, MD 20854 (US). CAIN, Colyn [US/US]; 4309 Kentbury Drive, Bethesda, MD 20814 (US). STROVEL, Jeffrey, W. [US/US]; 14622 Keeneland Circle, North Potomac, MD 20878 (US). (74) Agents: GRANT, Alan, J. et al.; Carella, Byrne, Bain, Gilfillan, Cecchi, Stewart &, Olstein, 5 Becker Farm Road, Roseland, NJ 07068 (US).

(81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (regional): ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

 without international search report and to be republished upon receipt of that report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

A

(54) Title: AMPLIFIED CANCER TARGET GENES USEFUL IN DIAGNOSIS AND THERAPEUTIC SCREENING

(57) Abstract: A gene useful as a prognostic indicator of survival of patients afflicted with cancers such as breast cancer is described. Also disclosed are methods for screening potential therapeutic agents, such as antitumor agents, based on their modulation of the expression of a TRIP13 gene, or splice variants thereof, along with methods for diagnosing cancerous, or potentially cancerous, conditions as a result of the expression, or patterns of expression, of such genes, including changes in copy number. Also disclosed are methods for detecting or determining functionally related genes, where disruption of TRIP13 may affect such related-gene expression, as well as methods for treating cancer based on targeting expression products of such genes and determining genes involved in the cancerous process. Methods for identifying, detecting and following patients and others having high levels of amplification/expression of the gene before treatment where differences after treatment serve as markers for indication of success of treatment or for identifying individuals who would benefit from such treatment using this gene marker as a diagnostic and/or prognostic and/or pharmacodynamic or surrogate marker are described.